

## US005495566A

# United States Patent [19]

## **Kwatinetz**

5,196,838

5,299,307

5,313,229

# [11] Patent Number:

5,495,566

[45] Date of Patent:

Feb. 27, 1996

Primary Examiner—Raymond J. Bayerl Assistant Examiner—Ruay Lian Ho Attorney, Agent, or Firm—Seed and Berry

#### [57]

#### **ABSTRACT**

An improved method and system is provided for scrolling contents of a window. In accordance with a first aspect of the present invention, variable speed scrolling is provided when scrolling beyond a screen boundary. In accordance with the first aspect of the present invention, the variable speed is proportional to the acceleration of the mouse cursor. In accordance with a second aspect of the present invention, variable speed scrolling is provided when scrolling beyond a screen boundary. The variable speed of the second aspect of the present invention is inversely proportional to a number of times that scrolling has been initiated. In accordance with a third aspect of the present invention, an improved method and system for scrolling in response to navigation key input is provided. In accordance with the third aspect of the present invention, a scrolling mode is selected after examining navigation key input. When the navigation key input comprises more than a predefined number of keys with each key being received within a predefined period of time, the third aspect of the present invention performs jump to scrolling. If there are less than the predefined number of keys or the keys are not within the predefined time period, the third aspect of the present invention performs animated scrolling.

# 26 Claims, 9 Drawing Sheets

[54] SCROLLING CONTENTS OF A WINDOW [75] Inventor: Andrew Kwatinetz, Seattle, Wash. Assignee: Microsoft Corporation, Redmond, Wash. [21] Appl. No.: 343,780 Filed: Nov. 22, 1994 [22] [51] [52] [58] 395/159, 161; 345/118, 119, 157 [56] References Cited U.S. PATENT DOCUMENTS 4,313,113 4,789,962 12/1988 Berry et al. ...... 364/900 4,794,386 12/1988 Bedrij et al. ...... 345/119 4,831,556 4,984,152 1/1991 Muller ...... 364/521

5,155,806 10/1992 Hoeber et al. ...... 395/157

3/1993 Meier et al. ...... 345/118

3/1994 Young ...... 395/161

5/1994 Gilligan et al. ...... 345/157

